PROJECT NUMBER: 1810
PROJECT TITLE: Project ART
PROJECT LEADER: Ravi Prasad
PERIOD COVERED: October, 1988

I. PROJECT ART

A. **Objective**: To support commercial Plant Design and Flavor Development objectives at the Bermuda Hundred Pilot Plant.

B. **Results**: Pilot Plant tests with the fourth master batch of DL blend (DL-4) indicated that the extractability of this batch is similar to the earlier batches, i.e., 97% nicotine reduction can be achieved at standard process conditions.

Stem absorber optimization indicated that the absorber pressure drop can be reduced by reducing the CRS cuts-per-inch. However, the nicotine absorption efficiency drops with the use of reduced CPI stems. Further optimization activity has been deferred, as the priority was shifted toward Flavor Development objectives.

Preferred process conditions were selected for pilot plant operation to best support the Flavor Development activity, i.e., reduced spotting with cold recovery of CO_2, 97% nicotine removal. Addition of humectants prior to extraction was also implemented to improve the product quality. To-date 97% nicotine reduction has been achieved in all runs that did not have mechanical malfunction, i.e., CO_2 leaks or power failure.

In support of the Commercial Plant, nicotine laden activated carbon (950 lbs) was thermally treated to determine the scale-up of laboratory thermal treatment procedures.

Liquid samples from the extraction room were taken to determine the potential for metal corrosion/pitting. Data on "chloride" content in the system was provided to determine its impact on corrosion for both the Pilot Plant and the Commercial Plant.

Ongoing support to the Analytical Division was continued via the analysis of key samples to determine the variability in nicotine measurement. In addition, an internal check of the Hewlett Packard GC Model 5880A at the pilot plant is being done to assure that nicotine measurements are accurate from day-to-day.

C. **Plans**: Continue production in support of Flavor Development activity.

2022221521

Source: https://www.industrydocuments.ucsf.edu/docs/gkkm0000